**Informatics, Ch 4, Data Analytics: Presenting the findings**

**Testing, p 232**

1. What is the purpose of testing? List the steps involved.

* To check that a solution produces the correct or expected output and does what it should do. The steps involved include:

1. Decide which tests will be conducted
2. Create suitable test data
3. Determine expected results
4. Conduct the test
5. Record the actual results
6. Correct any errors
7. List the different testing types.

* Informal
* User acceptance
* Component
* Integration
* System
* Installation
* Compatibility
* Useability
* Accessibility

1. What constitutes good test data?

* Good test data includes:
* Valid data - Data that is acceptable and reasonable
* Valid but unusual data – This is data that shouldn’t be rejected even though it seems odd
* Invalid data - Data that is outside the parameters or boundaries and seeing if it gets rejected like it should (to test’s the codes validation routines).
* Boundary condition data – Data that is on the borderline of some critical value where the behaviour of the code should change.

1. What areas should be tested in a MMOS?

* Media and plug ins
* Hyperlinks
* Links to external services
* Readability
* Calculations
* Loading times
* Browser compatibility
* CSS
* Accessibility
* Dynamic features
* Loading capacity

**Testing table,** p 235

1. What is the purpose of a testing table?

* It’s to record evidence of functionality testing.

**Evaluation**, p 237

1. What is the purpose of evaluation as the final stage of the problem-solving methodology?

* It checks how well the solution is satisfying the needs of the user for which it was originally created.

1. Distinguish between evaluation & testing.

* Testing determines its functionality and proves that it works correctly, while evaluation checks how well the solution satisfies the needs of the user for which it was originally created or in simpler terms, the effectiveness of the solution.

1. When are the evaluation criteria determined? What should they be based on?

* Evaluation criteria are determined during the design stage of the problem solving methodology. They should be based on the most important qualities that the solution is expected to have when it is designed.

1. Distinguish, with the use of an example, between criteria to evaluate efficiency and effectiveness.

* Efficiency is measured in terms of speed, productivity, time and cost, while Effectiveness includes things that relate to the quality of the solution such as completeness, readability, attractiveness etc.

An example of this would be to count the complaints from staff or customers about inaccurate information received over three months from a system, this would be evaluating the accuracy or the effectiveness of the solution. While to count how many transactions the system handled over three months compared to the previous system, this would be evaluating productivity or efficiency.

**Evaluation methods,** p 238

1. Distinguish between objective and subjective results?

* Objective results are fact-based/measureable results that are hard to argue with. While subjective results are emotions, opinions and personal judgements which should only be used when objective results cannot be gained. They can be argued against because they may not be factual, as the old saying goes ‘everyone has an opinion, and a lot of them stink’.

1. When should a solution be evaluated?

* A solution should be evaluated after it has been in regular use for some time, and become ‘bedded in’ where users are familiar and comfortable with it.

**Assessing your project plan,** p 239

1. What type of questions can be answered in evaluating your project plan?

* Did the project finish on time?
* What tasks delayed your project? Why were these delays not anticipated?
* Could lessons be learned to help the next project finish on time?
* Did the project finish on budget?
* What assumptions did we get wrong?
* Why did this task cost far more than expected? How can we avoid that next time?
* Why were new requirements being added just weeks before the system was due to go online? Was our analysis a failure?
* Why did the first three prototypes blow up? Was the design team under-skilled, overworked, under-equipped or working to an impossible deadline?

1. In evaluating your project plan evaluation criteria are used to indicate how successful it was in managing your activities. What are some of the criteria you can use?

* Completeness: Were any significant tasks omitted from the WBS? Were resources included? Was it annotated when required?
* Maintainability: How easy was it to modify the Gantt chart to keep up to date with reality?
* Accuracy: Were tasks correctly identified and marked as dependent or concurrent? Were tasks in the right sequence? Were time estimates realistic?
* Readability: Was it easy to see all tasks and their dependencies? Was the chart and its text of a readable size? Were colour choices appropriate?